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## NOTICE OF SOME OPERATIONS OF LITHOTOMY.

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ON Tuesday, the 27th of August last, Professor Bush operated on Churchill Wilkerson, a boy aged 3 years, from Franklin County, Ky., near the forks of the Elkhorn. The lateral operation of Liston was performed, the patient being under the influence of chloroform. This agent acted most admirably; the little patient lay as if quietly asleep, and on awaking had no recollection of what had occurred. The wound healed quickly without accident, and on Wednesday, the 4th of September, only eight days after the operation, he returned home, cured.

This patient, like the great majority of those who come to Lexington, with urinary concretions, resided in a *limestone district*—Franklin county being seated on the *great blue limestone* formation. Unlike most young subjects of this disease, he did not appear to have had calculus at his birth; the symptoms having appeared, for the first time, only about twelve months before the operation.

The calculus weighed, when dry, one hundred and five grains. It is of a regular oval outline, flattened on two sides. The exterior crust is of a light gray color; that on one side is more porous and friable than the other, and had been somewhat crushed by the forceps in its removal from the bladder; that on the other side is fine grained and hard. On sawing it in two, it proved quite hard and brittle in the interior; and presented a small clay-colored *nucleus*, eccentric in its position, occupying one focus of the ellipse formed by the outline of the horizontal section of the stone. A few faint concentric thin lines, of buff and clay color, are also observed on the section; the principal one situated about half way from the centre to the circumference. The main body of the concretion is compact and of a clear white color.

Chemical examination showed that the minute *nucleus* is mainly composed of *urate of ammonia* or uric acid; the *body* principally of *fusible phosphates;* the exterior crust containing a small proportion of *oxalate of lime;* while the thin buff and clay-colored lines or layers are most probably of the same nature as the nucleus.

About the first of June, 1849, Prof. B. W. Dudley removed a calculus, by the usual lateral operation, from the bladder of a black boy, aged 18, from middle Tennessee.

This stone weighs about three quarters of an ounce avoirdupois;

*form*, a much flattened, somewhat irregular spheroid; *surface*, irregularly tuberculated with flattened tubercles, covered with minute crystals; *color of the exterior*, light yellowish gray. On sawing it in two, the section presented an irregular *nucleus*, of a dark walnut wood color, surrounded by a thick layer of lighter substance, which is of a dark yellowish gray, and covered by a thinner layer, of the same color as the nucleus; on this the thin exterior light-colored coating was deposited. The general structure of this calculus is porous, with irregular disposed cavities. The *composition* is as follows:—The *nucleus* is *oxalate of lime*. The *central portion* is composed of the same substance, with an admixture of phosphates. The *dark band* is oxalate of lime, and the *exterior crust* is phosphate of lime, with minute crystals of oxalate of lime.

This patient also was from a limestone region, where limestone water is commonly used.

On the 31st January, 1850, Dr. Dudley operated for stone on David West, aged 16, from Greenville, Green County, Tennessee, also a *limestone region*. This patient had had symptoms of calculus for about ten years preceding. The concretion which was obtained weighs about five eighths of an ounce avoirdupois, and is nearly of a kidney shape. The exterior is tuberculated and covered with minute octahedral crystals. The general external color is light dirty buff, but where the tops of the tubercles have been broken off a dark walnut-wood color appears. On sawing it, it proved to be very hard in the interior. The section showed that it was a mulberry calculus, of the usual dark walnut-wood color, darker on the exterior; with its numerous rough tuberculated projections imbedded in the light buff-colored, porous, external coating. The central portion or nucleus is of a dark clay color, lighter than the mulberry body, and one or two narrow irregular yellowish bands appear near the centre. The whole is compact and hard, except the exterior porous coating. On examination, the *nucleus* was found to be *urate of ammonia*; the *central portion* is of the same substance mixed with *oxalate of lime*; the *outer portion* of the hard mulberry calculus is mainly of *oxalate of lime*, with a little admixture of urate of ammonia; while the exterior friable whitish crust, which fills up the irregularities of the surface of the imbedded mulberry calculus, is composed of *phosphate of lime with some ammonia—phosphate of magnesia*, and a trace of urate of ammonia, covered with minute octahedral crystals of oxalate of lime.

This concretion presents the usual characters of the majority of the calculi of the limestone region, viz., a nucleus of urate of ammonia, passing into a body of oxalate of lime; with an external coating of earthy phosphates.

A similar composition was observed in a concretion obtained by another operation, by Prof. B. W. Dudley, performed on the 31st of May, 1850, on George B. Higgins, aged 5 years, who came from the neighborhood of Harrodsburg, Ky., which is also located on the *blue limestone formation*. This patient had exhibited symptoms of stone for two years preceding the operation.

This stone weighed thirty-six grains, but it had been broken in the extraction, and a portion from one end, about one fifth of the whole, had been lost. Its general form is a flattened oval, or bean shaped, with some irregular projections. The surface is whitish, with a light dirty buff tinge. The section presented a dense nucleus of a clay color, or warm buff gray; exterior to which is a central layer, forming most of the body of the calculus, which is rather more buff in color and rudely crystalline, with numerous small cavities. The exterior crust is thin and of a lighter color. The *nucleus* proves to be *urate of ammonia*; the *body* is composed of *oxalate of lime*, with a trace of phosphates, and the *exterior* is nearly of the same chemical composition, with a rather larger proportion of earthy phosphates.

All these patients recovered speedily, and without accident, from the effects of the operation.

These cases tend to strengthen the conclusion, arrived at some years since, on the chemical examination of the collection of urinary calculi in the museum of the Medical Department of Transylvania University —that calculous disease is most frequent in limestone regions, and that there is in the concretions of these regions, an unusual proportion of the urate of ammonia nucleus and the oxalate of lime body, with rather more than the ordinary tendency to the formation of phosphatic deposites.

These views have been strengthened by investigation in other portions of the United States. The attention of the profession has been latterly drawn to this subject by Dr. E. H. Davis, of Chillicothe, Ohio, who has, with a laudable industry, collected many interesting facts in this relation, and who, at a late meeting of the Medical Society of the State, read a paper upon this subject, which we have not yet had the pleasure to peruse.

The following extract from a letter to the writer from Prof. J. C. Warren, of Boston, strengthens these results:—

"Within the last seventy years not more than sixty cases of stone in the bladder have become subjects of surgical operations (in Boston). In these are included lithotomy and lithotrity cases. Of the whole number, more than one half have taken their origin out of Boston and its vicinity. The whole of the State of Massachusetts is almost void of limestone. From the State of Maine I have received from a single town, Thomaston, four cases of calculus. This town has an abundance of calcareous rock." Indeed the preparation and sale of lime is a prominent business in Thomaston.

According to letters from the Green river country, Ky., the limestone in which the Mammoth Cave is situated—the *carboniferous* limestone is quite productive of urinary calculus. A young physician of that region, Dr. Wm. H. Gardner, sent me in March last, brief notes of no less than fourteen operations, which he had performed for stone, since April, 1849, and stated that he had six cases then on hand for the operation. As I hope to receive from the doctor the specimens of calculi for analysis, and more extended accounts of his cases, I will refrain at present from any further remarks on this very interesting fact.—*Transylvania (Louisville) Medical Journal.*